



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/151,764	09/11/1998	JAY H. DOWLING	A-6388	8313

7590 11/13/2003

DOUGLAS W ROBINSON
HOFFMAN WASSON & GITLER
2361 JEFFERSON DAVIS HIGHWAY STE 522
ARLINGTON, VA 22202

EXAMINER

FURFMAN, JARED

ART UNIT

PAPER NUMBER

2876

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/151,764

Applicant(s)

DOWLING ET AL.

Examiner

Jared J. Fureman

Art Unit

2876

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25,27-43 and 49-51 is/are pending in the application.
- 4a) Of the above claim(s) 1-24,28-35 and 37-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25,27,36,40-43 and 49-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other.

DETAILED ACTION

Receipt is acknowledged of the supplemental appeal brief, filed on 6/12/2003, which has been entered in the file. Claims 1-25, 27-43, and 49-51 are pending. Claims 1-24, 28-35, and 37-39 have been withdrawn from further consideration, and claims 25, 27, 36, 40-43, and 49-51 are rejected as set forth below.

1. In view of the supplemental appeal brief filed on 6/12/2003, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Please note that prosecution has been reopened only to remove any appearance of the use of "official notice" prior to sending the application to appeal.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 25, 36, 40-43, and 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peng (US 5,365,049, previously cited) in view of the admitted prior art and Parulski et al (US 5,563,658, previously cited).

Re claims 25, 36, 41-43, 49, and 50: Peng teaches an optical symbology imager, comprising: a multiple line charge coupled device (CCD) (18) having an active area, a focusing apparatus comprising a focusing disk (wheel 4) with multiple optical positions (reflective surfaces 7) to provide different focal lengths, the disk being rotatable so that each of the multiple optical positions can move into an optical path of the imager, a microprocessor (not shown) for controlling the focusing apparatus and operation of the CCD, so that the CCD performs image capture producing image data for each of the multiple optical positions, the microprocessor controlling the CCD to shift out the image data, the microprocessor evaluating transitions between light and dark data in a central set of multiple scan lines (Peng evaluates all of the scan lines of the CCD, thereby including the central set of scan lines) to produce a representative value for each of the multiple optical positions, wherein a largest representative value corresponds to one of the optical positions producing optimum focus (the optical position that produces optimum focus will necessarily produce the largest representative value between transitions of light and dark data), the multiple optical positions being at least two, and the multiple optical positions being eight (surfaces 7a-7h) (see figure 6, column 1 lines 6-46, column 2 lines 3-26, column 2 line 61 - column 3 line 12, column 4 lines 4-16, and column 7 line 47 - column 8 line 13).

Peng fails to specifically teach shifting out the image data substantially serially, the CCD having a resolution of 659 by 494, and the optical symbology imager being hand-held.

However, the admitted prior art teaches that CCDs which shift out image data substantially serially, and CCDs having a resolution of 659 by 494 were well known to those of ordinary skill in the art at the time of the invention and were commercially available (see page 3, lines 1-11, and page 11 lines 28 - column 12 line 2 of the specification). The admitted prior art also teaches that scanners may be either installed in a fixed location or portable hand-held units (see page 2, lines 10-30).

In view of the admitted prior art teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the imager as taught by Peng, shifting out the image data substantially serially and the CCD having a resolution of 659 by 494, in order to provide a CCD that has an output that is widely accepted (see page 3, lines 1-11, and page 11 lines 28 - column 12 line 2 of the specification), thereby providing compatibility with conventional devices/systems, and the optical symbology imager being hand-held, in order to provide a more convenient and versatile optical symbology imager (for example: a hand-held optical symbology imager would be more convenient when it is necessary to scan large or heavy items which would be difficult to move past a fixed scanner at a point of sale terminal).

Peng fails to teach the CCD disposing of a first set of multiple scan lines at a first rate of speed during focusing and then sampling a second subsequent set of multiple lines from the central set of scan lines at a second rate of speed less than the first rate

of speed during focusing, the second set of multiple lines being substantially ten lines, the microprocessor only utilizing the central set of multiple lines to produce the optimum focus.

Parulski et al teaches disposing of a first set (68) of multiple scan lines of a CCD (20) at a first rate of speed ("fast flush" mode focus mode) during focusing and then sampling a second subsequent set (center region 66) of multiple lines from the central set (the center section of the imager) of scan lines at a second rate of speed less than the first rate of speed during focusing, the second set of multiple lines being substantially ten lines (for example 4, 8, or 16 lines), the microprocessor (processor section 35) only utilizing the central set of multiple lines to produce the optimum focus, in order to reduce the amount of time needed for focusing (see column figures 1, 3, column 2 line 60 - column 3 line 3, column 4 line 29 - column 5 line 14, and column 6 lines 60-64).

In view of Parulski et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the imager as taught by Peng, the CCD disposing of a first set of multiple scan lines at a first rate of speed during focusing and then sampling a second subsequent set of multiple lines from the central set of scan lines at a second rate of speed less than the first rate of speed during focusing, the second set of multiple lines being substantially ten lines, the microprocessor only utilizing the central set of multiple lines to produce the optimum focus, in order to reduce the amount of time needed for focusing, thereby providing a faster system.

Re claim 40: Peng as modified by Parulski et al fails to specifically teach that the first set of multiple lines is 246 lines.

However, Parulski et al does teach that the number of lines in the first set of multiple lines is variable and depends upon the conditions under which the system is intended to be used (see column 6 lines 60-64), thus, the number of lines in the second set of multiple lines is also variable (this is true since if the number of lines disposed of must be decreased).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to integrate, with the system as taught by Peng as modified by Parulski et al, the first set of multiple lines being 246 lines, in order to adapt the system to the conditions under which the system is intended to be used. Furthermore, it is an obvious variation, well within the ordinary skill in the art at the time of the invention, which fails to provide any unexpected results.

Re claim 51: Peng as modified by and Parulski et al fails to specifically teach the multiple optical positions being twelve.

However, Peng teaches that the number of multiple optical positions is variable (see column 6 lines 1-4) and that the number of focusing lengths depends on the number of multiple optical positions (reflective surfaces, see column 3 lines 9-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to integrate, with the system as taught by Peng as modified by and Parulski et al, the multiple optical positions being twelve, in order to increase the number of focusing lengths, thereby increasing the range of distances over which

proper focus may be achieved. Furthermore, it is an obvious variation, well within the ordinary skill in the art at the time of the invention, which fails to provide any unexpected results.

4. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peng as modified by the admitted prior art and Parulski et al as applied to claim 25 above, and further in view of England (US 5,510,604, previously cited).

Peng as modified by and Parulski et al fails to teach the representative value being produced by totaling a first seven to ten values from multiple values produced for each of the multiple focusing zones.

England teaches producing a representative value (of a bar code) by totaling (each scan may be averaged from several sub-scans, producing an average includes totaling the values) a plurality (thus, suggesting at least 7-10) of values from multiple values produced by an imager, in order to ensure valid results (see the abstract, and column 5 line 35 - column 6 line 3).

In view of England's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the imager as taught by Peng as modified by and Parulski et al, the representative value being produced by totaling a first seven to ten values from multiple values produced for each of the multiple focusing zones, in order to ensure valid results.

Response to Arguments

5. Applicant's arguments filed 6/12/2003 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no specific teaching in the Parulski et al reference indicating a first scan rate of multiple lines as well as sampling a second subsequent set of multiple lines from a central set of lines at a second rate of speed less than the first rate of speed during focusing (see the supplemental appeal brief filed on 6/12/2003), Parulski et al teaches that during "fast flush" focusing mode, a top portion of the image is rapidly read out and discarded, then a small number of lines in the center region 66 of the image are clocked out using the normal readout operation, then the remainder of the image charge is cleared out (see figures 3, 6, column 4 line 65 - column 5 line 13, column 5 line 58 - column 6 line 11, and column 6 lines 24-43). Note that Parulski et al states, "... the first operation mode utilizes a subsection of the image sensor for focusing the lens, and the processor section causes transfer of the portion of the image outside the subsection **more rapidly** from the image sensor than the portion of the image within the subsection." (emphasis added, see column 2 lines 60-64). From this passage, it is unquestionable that Parulski et al teaches using a slower scan rate for the subsection (the central set of lines) than is used for the rest of the image sensor.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee (US 6,598,797 B2) teaches a focusing method for use with an optical symbology imager. Reddersen et al (US 6,505,778 B1 and US 6,176,429 B1) teaches an optical symbology imager using a CCD, which serially outputs data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared J. Fureman whose telephone number is (703) 305-0424. The examiner can normally be reached on 7:00 am - 4:30 PM M-T, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (703) 305-3503. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

October 31, 2003

Jared J. Fureman
Jared J. Fureman
Art Unit 2876